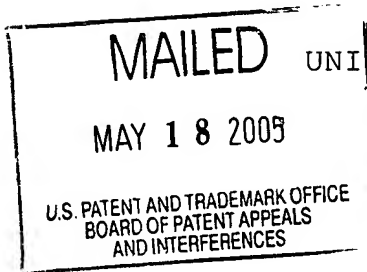


The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.



UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte RONALD J. KELLEY, SIVAKUMAR MUTHUSWAMY,  
STEVEN D. PRATT and ROBERT W. PENNISI

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Appeal No. 2005-1107  
Application No. 10/621,201

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ON BRIEF

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Before KIMLIN, KRATZ and JEFFREY T. SMITH, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

#### DECISION ON APPEAL

This is an appeal from the final rejection of claims 1 and 2, all the claims pending in the present application.

Claim 1 is illustrative:

1. A fuel cell system for a portable electronic device, comprising:

a fuel cell capable of operating on hydrogen that is obtained from methanol; and

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a reservoir for storing a supply of methanol, suitably connected to the fuel cell, wherein a fuel quantity measuring means is located within the reservoir, wherein the fuel quantity measuring means comprises;

an immersion capacitive unit, wherein the immersion capacitive unit comprises a plurality of pairs of plates placed in more than one location within the reservoir, wherein the supply of methanol in the reservoir forms a dielectric between at least one of the plurality of pairs of plates of the immersion capacitive unit, and

electrical circuitry for measuring a capacitance value of the immersion capacitive unit produced using the dielectric.

The examiner relies upon the following references as evidence of obviousness:

Pope	4,589,077	May 13, 1986
Hockaday	5,759,712	Jun. 2, 1998

Appellants' claimed invention is directed to a fuel cell system for a portable electronic device comprising a reservoir that is connected to the fuel cell for storing a supply of methanol or a liquid hydrocarbon fuel. An immersion capacitive unit is located in the reservoir for measuring the supply of methanol and hydrocarbon fuel.

Appealed claims 1 and 2 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Hockaday in view of Pope.

We have thoroughly reviewed each of appellants' arguments for patentability. However, we are in complete agreement with the examiner that the claimed subject matter would have been

obvious to one of ordinary skill in the art within the meaning of § 103 in view of the applied prior art. Accordingly, we will sustain the examiner's rejection for the reasons set forth in the Answer, which we incorporate herein, and we add the following primarily for emphasis.

Hockaday, like appellants, discloses a surface replica fuel cell capable of operating on hydrogen that is obtained from methanol. Also, Hockaday discloses a fuel tank 119 for containing the methanol. It is appellants' contention that the fuel tank of Hockaday does not meet the requirements of the claimed reservoir, and appellants supply three dictionary definitions of "reservoir" to support their position. However, like the examiner, we do not understand how the fuel tank of Hockaday does not fulfill appellants' definition of "a place where something is kept in store" and "a part of an apparatus in which a liquid is held" (page 9 of Brief, last paragraph). Manifestly, a fuel tank is a place where fuel is kept in store before use, and is an apparatus which holds the liquid fuel. Hence, we find no error in the examiner's reasoning that the fuel tank of Hockaday qualifies as a reservoir.

Appellants also maintain that "the fuel filled fuel tank 119 of Hockaday is not a reservoir in that the fuel tank is punctured

by a fuel needle to make the fuel connection" (page 10 of Brief, first paragraph). However, the presence of an opening for a delivery does not disqualify the reference fuel tank as a reservoir. Clearly, a reservoir must have an avenue for delivering the stored liquid. Furthermore, appellants' claims expressly recite that the reservoir is connected to the fuel cell, and it would seem that such a connection is necessary to make use of the fuel in appellants' reservoir.

As recognized by the examiner, Hockaday does not disclose the use of the claimed immersion capacitive unit for measuring the amount of fuel in the reservoir. However, Pope evidences that it was known in the art to employ the claimed immersion capacitive unit for measuring the amount of fuel in a tank. Accordingly, we fully concur with the examiner that "it would have been obvious [for] one of ordinary skill in the art at the time the invention was made to modify Hockaday by substituting the manual sight glass type liquid level sensor with the immersion type capacitive liquid level sensor taught by Pope" in order to utilize a more accurate means (page 4 of Answer, penultimate sentence). Indeed, it would seem that appellants' specification acknowledges that it was known in the art to use such immersion capacitive units for determining the level of a

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liquid in a tank (see pages 3 and 4 of appellants' specification).

Appellants also submit that "the Pope patent actually teaches away from the present invention since in Pope there is no attempt or intention to utilize mutiple pairs of plates located in different areas of the reservoir" (page 10 of Brief, second paragraph). However, we find that appellants' argument has been completely refuted by the examiner at page 7 of the Answer.

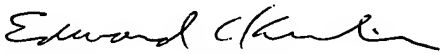
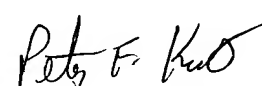
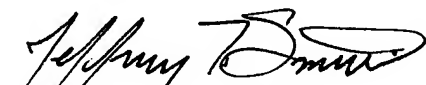
As a final point, we note that appellants base no argument upon objective evidence of nonobviousness, such as unexpected results, which would serve to rebut the prima facie case of obviousness established by the examiner.

In conclusion, based on the foregoing and the reasons well-stated by the examiner, the examiner's decision rejecting the appealed claims is affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv) (effective Sep. 13, 2004; 69 Fed. Reg. 49960 (Aug. 12, 2004); 1286 Off. Gaz. Pat. Office 21 (Sep. 7, 2004)).

AFFIRMED

	)	
EDWARD C. KIMLIN	)	
Administrative Patent Judge	)	
	)	
	)	
PETER F. KRATZ	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
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JEFFREY T. SMITH	)	
Administrative Patent Judge	)	

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